



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

Technology Assessment and Resource Recovery

biosolids recycling

2004 Summary

Where do the biosolids go?

For more than 30 years, King County has been turning wastewater solids into a natural resource called biosolids. This valuable soil amendment can be used to build soils, revegetate barren areas, and fertilize crops and other plants.

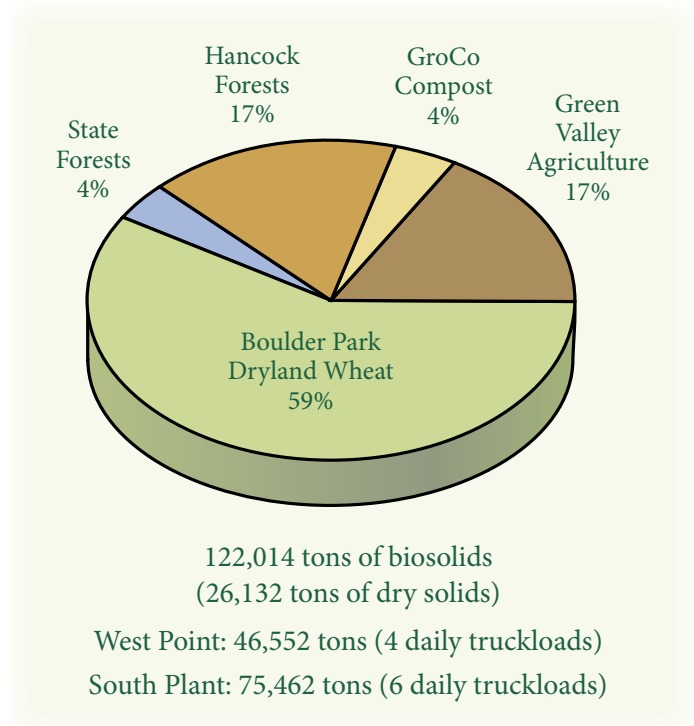
All King County's biosolids are used beneficially in agriculture and forestry or as an ingredient in compost. When recycled into the soil, biosolids will:

- retain soil moisture
- reduce erosion
- add organic matter
- improve soil tilth
- slowly release essential nutrients



Fertilizing the forest with biosolids.

King County was a pioneer in recycling biosolids. While other cities were landfilling and ocean-dumping their wastewater solids, King County was working with the University of Washington to find the safest, most effective uses for this nutrient-rich material. Our biosolids easily meet the most stringent quality requirements for land application. The U.S. Environmental Protection Agency has twice recognized our program as the best in the nation.



King County spent about \$5 million in 2004 on its biosolids management program. Land application and transportation to project sites averages \$34 per ton. The program generated more than \$129,600 in revenue, including fertilizer fees from customers.

Transportation to project sites	60%
Land application	17%
Land application support (monitoring, research, permits)	12%
Staff wages and benefits	11%
Total Budget	100%



For more information
on biosolids, visit:
<http://dnr.metrokc.gov/WTD/biosolids>

Partnerships in Recycling

1 Boulder Park Soil Improvement Project encompasses more than 40,000 acres of dryland grain crops in Douglas County. More than 100 landowners and farmers participate in this project. Biosolids from other agencies are also recycled at this site, helping to satisfy local demand. In 2004, 5,700 acres of wheat were fertilized with King County biosolids.

2 Green Valley Project in the Yakima Valley includes more than 35,000 acres of hops, orchards, alfalfa, and managed rangeland. The project sponsors are also using biosolids and crop residuals to create a compost. In 2004, the following crops received King County biosolids: 69 acres of rangeland, 24 acres of alfalfa, 717 acres of hops, and 55 acres of grapes.

3 GroCo Compost has been produced and marketed by a private company, GroCo Inc., for more than 20 years. This composted mixture of biosolids and sawdust is used in residential and commercial landscaping, home gardens and soil restoration.

4 Mountains to Sound Greenway (MTSG) Biosolids Forestry Program is a partnership of private and public agencies that uses biosolids to fertilize and preserve working forests in eastern King County. In 2004, biosolids were applied to 172 acres of state forestlands and to 860 acres of Douglas-fir plantations in Hancock's Snoqualmie Forest.

Research and Education

King County is a founding member of the Northwest Biosolids Management Association (NBMA), which encourages environmentally sound management of biosolids. Members share technical and educational information with the public and regulatory agencies.

In 2004, the NBMA funded research on growing canola for biodiesel production, carbon sequestration and risk assessment on pathogens and bioaerosols. These studies were performed by researchers at the University of Washington, Washington State University, and the University of Arizona National Science Foundation Water Quality Center.



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Continual Improvement

In 2004, King County's Wastewater Treatment Division became the third public agency in the country to receive certification of its Environmental Management System (EMS) for biosolids. An EMS provides a better way to lead, manage, compete, stay in compliance, and enhance public understanding. Staff from West Point and South Treatment Plants, Industrial Waste Pretreatment, Planning and Compliance, Biosolids Program and biosolids application and haul contractors received training and participated in the successful independent audit process. Goals and benefits of EMS included:

- Improving cross-sectional communications
- Preserving institutional knowledge
- Increasing environmental awareness
- Increasing efficiency and productivity

Maximizing opportunities for continual improvement and maintaining EMS certification are our future goals.

The Biosolids Team

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For more information on biosolids recycling or for tours or lectures, see our Web pages at <http://dnr.metrokc.gov/WTD/biosolids> or call 206-684-1247.

Alternative formats available
206-684-1247 (voice) or 711 (TTY)